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Clinical Notes on the Elongations of the Cervix Uteri

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CLINICAL NOTES ON THE ELONGATIONS OF THE CERVIX UTERI.

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In this paper I shall give my own experience in two forms of lesions peculiar to the cervix uteri. The one is elongation of the supra-vaginal portion of the cervix; the other, elongation of its infra-vaginal portion.

These two lesions are usually classified under the general heading of Prolapse, or Procidentia, of the Womb. But this term, in its primary and strictly etymological sense, means the downward displacement of the womb as a whole — in other words, the substantial sagging down of the womb, namely, fundus and cervix, by simple descent. There is, therefore, very questionable propriety in including, under this term, the two varieties of cervical elongation, simply because all three lesions have one symptom in common — that of prolapse. True, in each of the lesions under consideration, the cervix protrudes from the vulva, but it does so more through its elongation than from a downward displacement of the body of the womb. There exists, in other words, a prolapse of the cervix, without necessarily any sagging down of the fundus.

ELONGATION OF THE SUPRA-VAGINAL CERVIX.

While complete prolapse of the womb from simple descent is comparatively a rare disease, protrusion of the cervix from the vulva, through elongation of its supra-vaginal portion, is not uncommon. Yet the pathology and etiology of this remarkable disease is not so well understood,

although Dr. I. E. Taylor has thrown much light on it.[1] In the majority of cases it seems due mainly to what Duncan aptly calls a "tensile elongation" of the supra-vaginal portion of the cervix through primary descent of the vagina and of the bladder. The traction of the prolapsing vagina and bladder upon a womb made ductile by subinvolution, or by chronic congestion, spins out the portion of the womb lying between its vesico-vaginal attachments below and its suspensory ligaments above. While from formative irritation there is always present some degree of growth, of true hypertrophic elongation, yet the behavior of the elongated cervix, under certain analogous conditions, shows that traction is the main factor in its production. For instance, if the woman be put in the knee-breast position, and the cervix be returned within the vagina, the womb will slowly contract, like an over-stretched rubber band, and give a much shorter measurement than it gave before its reposition. Then again, whenever, as occasionally happens, the elongated and heavy womb finally overcomes the resistance of its ligaments and becomes wholly procident, it always shortens and usually takes on general atrophy. Traction on the womb itself being thus lost, the tensile elongation disappears, and with it that blood-stasis and formative irritation which lead to growth. Finally, the stem-like attenuation of the supra-vaginal cervix, which is the portion dragged upon, clinches the proof that to traction, and not to growth, must we look for the exciting cause.

I have seen the same supra-vaginal elongation of the cervix take place by upward traction, when the fundus was adherent to an ovarian cyst. The same phenomenon also was produced to a marked degree in the case of a womb firmly bound to the sac of a ventral fetation. The five inches length of the womb, which is always softened and ductile under such circumstances, and the stem-like attenuation of the supra-vaginal cervix, bore a remarkable resemblance to the affection under consideration. Nor could it very well be otherwise, for while in each the working fac-

[1] *Bellevue and Charity Hospital Reports*, 1869.

tors were not the same, the element of traction was essentially the same. Thus, in prolapse of the cervix, with elongation of its supra-vaginal portion, the fundus uteri is stable, while the unstable cervix is elongated by the downward traction of the prolapsing vagina and bladder. In the case of a womb whose fundus is bound to a growing cyst, the elongation must take place, by upward traction, between the unstable fundus and the stable cervix. In the former, the static, or resistant, force lies in the uterine ligaments; the dynamic, or working, force in the vesico-vaginal attachments of the cervix. In the latter, the static force is in the vaginal cervix; the dynamic, in the adhesions to a growing cyst.

From this point of view the state of the cervix should give a trustworthy clue to the disturbing cause in any given case of prolapse. If the uterine cavity be barely, or not at all lengthened out, as in the simple descent of the womb, we may infer that the prolapse of the womb has been the initial event. If, however, marked elongation of the supra-vaginal cervix be present, the vagina and bladder have been the primarily prolapsed organs. Thus defined, the latter affection is essentially a prolapse of the vagina and bladder, and not one of the womb. The mode of production can be imitated by reducing the procident mass, and making the woman expel it by bearing down, when it will be found that the vagina and bladder begin to protrude before the cervix. Whereas, in simple prolapse, the reverse takes place.

With this brief exposition of the nature, as I understand it, of this distressing lesion, my next step should be to give the means of relief. The treatment, however, has hitherto been very unsatisfactory, one on which no two gynecologists agree, and one on which more light is needed. I shall, therefore, content myself with giving the clinical history of such cases as fell under my observation, leaving the Fellows to make it the text of their remarks.

Case I. — M. H., an American, is one and forty years old, but hardship and overwork make her look much older. Her family

consists of an invalid husband and six children, all of whom she supports by taking in washing. She and her eldest daughter are confirmed epileptics. Five of her labors presented no difficulties; but the sixth proved tedious, from the size of the child, and ended with the mishaps of a torn cervix and a torn perineum. She never afterwards felt strong; had lingering lochia, more or less leucorrhea, "bearing-down feelings," and other uterine symptoms, which she attributed to her getting up and working too soon. One year after this labor her urine began to scald her. The pain, at first bearable, daily grew worse, and soon became so acute that she now empties her bladder as seldom as possible. Not long after this, a tumor began slowly to protrude more and more from the vulva. It was and still is reducible; but its reduction, which at first gave her no pain, causes her now so much suffering that she has dispensed with a perineal pad, long worn to keep the tumor within the vagina. Micturition is extremely painful, and defecation can be performed only by passing the finger into the vagina and emptying a large rectal pouch. Protruding from the vulva is an unsightly tumor, which consists of a cystocele, of a rectocele, and, between them, of the cervix uteri, much enlarged by circular hypertrophy and gaping open from a lacerated cervix. The tumor projects about 2.5 inches, and since the sound gives a measurement of 5 inches, the fundus uteri must be about 2.5 inches above the ostium vaginæ. Two irregular ulcers lie on the cervix. One of them is angry-looking; the other looks as if covered with a croupy exudation. A crimson caruncle, obstructing the meatus urinarius, reveals one of the causes of painful micturition; while the vaginal portion of the cervix is soft, clubbed, and tuberous, the supra-vaginal portion is hard, cylindrical, and of uniform size, but attenuated, as if wire-drawn. By firmly compressing the base of the external portion of the tumor, I could feel and trace up the cervix, for some distance, like a firm, cord-like body, not thicker than my little finger. When the tumor is pushed back into the vagina the sound gives a measurement of 3.5 inches, the elongated portion of the cervix behaving like an over-stretched rubber band.

On May 6, 1872, I removed, by the cold wire, merely the lacerated portion of the cervix. This was followed by a shrinking of the womb, and when the woman was discharged the sound gave a measurement of but three inches. She was, however, not cured, for, as she resumed her work, more and more elongation

took place, until she became as bad as before. In the autumn, therefore, I removed, also with the cold wire, the rest of the cervix at a line somewhat above the vaginal junction, and restored the perineum. The cervical wound was also covered with mucous membrane by Sims's stitches. Complete success attended this operation, and it was very unexpectedly followed by the cessation of her epileptic fits.

Through her physician, Dr. Isaac B. Mulford, of Camden, N. J., I kept track of her for a number of years. When last heard of she was well, and had not suffered from any cicatricial contraction of the cervix. When I last saw her, some two years after the operation, the womb measured a trifle under 2.5 inches, and the cervix lay so much higher up than natural that it was with some difficulty brought into the field of the speculum.

I have detailed this case somewhat at length, because it is a typical one, and will thus save tiresome iteration in the description of my other cases.

Case II. — M. I., a native of this country, aged thirty-five, has given birth to two children. Extrusion of the reproductive organs first occurred some years ago, during the third month of her second pregnancy. Her physician replaced the womb and put her to bed for some weeks. Five months after her delivery, prolapse of the parts again took place, and has continued ever since. Her catamenia are regular, but too free, and she is very hysterical. I saw her, for the first time, on October 23, 1872. The cervix projected far from her person, the uterine cavity measured five inches, the vagina was wholly inverted, and the bladder and rectum were both pouched. The bearing down so crippled her that she was unable to do any other work than sewing.

I tried every device for keeping up the womb, but failed. So, on February 3, 1873, I brought her before the class and cut off the cervix with the cold wire. The stump was covered with the surrounding mucosa by Sims's stitches. Colpo-perineorrhaphy was also performed. Some weeks elapsed before I could get the raw surface immediately around the os to heal. When, finally, she got up, the womb measured barely 2.5 inches. In May of the following year she again consulted me for menorrhagia and

backache. The womb had not increased in length, but it was retroverted. As some portion of the cervix still projected into the vagina a Hodge pessary sufficed to relieve her. The os at this time readily admitted the sound. Two years later I met her at the office of one of my colleagues, who was treating her for a tape-worm. She had not conceived, nor had there been any relapse, although she had long ago removed the pessary.

Wishing to know her present condition, I asked Dr. Baer, who had attended some member of her family, to see her. He replied as follows: —

"*September* 9, 1879.

"My dear Doctor, — I found Mrs. I. very glad, after I had stated my errand, to give me the information you desired.

"She states, enthusiastically, that she is well, and able to earn her living as a mill-hand. She has to remain on her feet all day, and lift and carry heavy bundles of goods. She has no more menorrhagia or leucorrhea, and no pain or dragging feeling such as she used to have. There is no tumor at the vulva, and she says that she is as well as she ever was in her life. Very truly yours, B. F. Baer."

Since the receipt of this letter, Dr. Roland G. Curtin, who is her family physician, has told me that she does the work of two hands at the mill, and is the only woman in the establishment who is able to undergo this double labor.

Case III. — E. M., of Ireland, aged fifty, but still regular, has had six children, and has always staid in bed two full weeks after each labor. In the last three months of her third pregnancy, and in each subsequent one, the "womb"[1] prolapsed externally, but the tumor disappeared after labor. Six months after the birth of her last child, now over twelve years old, she had an attack of inflammatory rheumatism, which, for nine months, kept her bedfast. As soon as she was able to be up the womb came down, and has protruded more or less ever since, that is to say, for eleven years. Various kinds of pessaries were in vain tried, and she finally sought my advice. I found all the usual phenomena of hypertrophic elongation of the supra-vaginal portion of the cervix, but with unusually great

[1] I have used quotation marks because, although she designated the procident organ as the womb, it may have been the vagina.

protrusion of the implicated organs. The uterine sound penetrated to the depth of six inches, a small polypus dangled from the funnel-shaped os, and a caruncle lay in the mouth of the urethra. These were removed, a large slice of the cervix was cut off with the hot wire, and the vulvo-vaginal outlet narrowed. These operations were performed before the class, on November 25, 1874, and were attended with complete success. I have repeatedly seen this woman since, and no return of the prolapse has has thus far manifested itself.

Case IV. — Mrs. F. E., of New Jersey, aged thirty-five, consulted me in December, 1874. She is now in good circumstances, but had, until lately, been obliged to do all her housework. Fourteen years ago she gave birth to her first child, and was confined to bed for two months on account of a very painful lump in her breast, caused by a blow. As soon as she got up, the womb began to prolapse, and very shortly it protruded from her person. Since no pessary was of any avail, she weaned her child four months after its birth, under the impression that lactation was doing her harm. Two months afterwards, although the cervix projected far from her person, she became pregnant. When six months gone, she fell into labor and was delivered of a dead child by a skillful physician, who very prudently kept her in bed for four weeks. As soon as she got up the womb protruded as badly as ever. Two years later she again became pregnant, and carried the child to term. She was rigidly kept on her back for ten weeks, but as soon as she stepped out of bed the old trouble reappeared. She now consulted an eminent physician who, in the autumn of 1865, closed the vulva up to the meatus urinarius. The operation was not wholly successful, for while the anterior portion of the perineum united perfectly, two small openings were left in the middle portion. When she was permitted to get up the womb began to press very firmly on this new perineum, which consequently became enormously distended and thinned out. The cervix, acting like a battering ram, gradually enlarged the two openings and wedged its way through, until all that kept it from wholly protruding was the narrow band of tissue which separated them, and on which it rode. The pressure on the perineum at last became so unbearable that she cut this band and freed the cervix, which at once shot out, giving, thereby, much relief. Before this was done, however, she became pregnant three times, miscarry-

ing respectively at three, five, and six months. All these miscarriages, and the two labors at term, were tedious and very painful.

At my first examination I was, for a moment, quite puzzled at the condition of the parts. The enormously elongated, as well as enlarged, cervix projecting through a collar of perineum, and not through the vulva, was from its novelty at first perplexing. The womb was by far the longest I have ever measured, and I was quite surprised to find the sound go in fully seven inches. Both supra- and infra-vaginal elongation was well marked, and the large funnel-shaped os bore the unmistakable notches of a bilateral laceration. The vagina was wholly inverted and pouched anteriorly and posteriorly by a cystocele and a rectocele. Walking was much interfered with, and she, therefore, had long ago given up all household duties, limiting herself to needlework.

A few days later, with Dr. John Ashhurst's assistance, I removed, by the hot wire, fully one inch and a half of the cervix, the longest slice I ever took off in this form of elongation. The perforated perineum was also reconstructed. Success attended both operations, and her recovery was prompt. She went home cured of all her troubles, and with a womb of natural size. Two years later, while spending my vacation near her home, I called on her and examined the parts. The os uteri was flush with the vaginal roof, but patulous. The womb measured a little over two inches and was retroverted. The cystocele and rectocele had disappeared, and, apart from more or less backache, she deemed herself well — well enough, indeed, to attend to all her household duties. Deeming the backache due to the malposition of the womb, I tried to return the fundus to its proper place; but, owing to the absence of the vaginal cervix, I failed with the Hodge pessary, and had to fall back on a soft rubber ring. This made her feel much better. In July, 1877, she became pregnant. Fearing, from her past experience, that gestation would reproduce the prolapse, she sent her husband to ask whether an early abortion should not be induced. I strongly opposed any interference, and she followed my advice, but with many misgivings. On April 28th she fell into labor which, owing to the great rigidity of the cervical structures, lasted eight and forty hours. As, after one day of hard pains, the os stayed undilated, her physicians, Drs. Marcy and Mecray, of Cape May City, summoned me by telegraph, but too late for me to

catch the train. For the following history of the labor I am, therefore, indebted to the courtesy of one of these gentlemen: —

"*April* 30, 1878.

"My dear Doctor, — It is with pleasure that I am able to inform you that Mrs. E. was safely delivered, about eight o'clock this morning, of a bouncing boy, weighing when dressed over ten pounds. We had used the chloral before we received your despatch, and continued it through the night, up to three o'clock, without the slightest effect, the os remaining, as at first, about the size of a small pea. By a rather violent effort, and after two or three failures, I succeeded in forcing a finger through the os, and then gradually dilated by main strength, until sufficiently open for the head to engage, nature giving us not the first particle of assistance, although the pains were regular and strongly expulsive. I then broke the membranes, and in a little while applied the forceps and delivered. The os and the cervix, for some distance around it, were as rigid as a piece of leather. . . . . This is our first experience with a cicatricial os in labor and, verily, we hope it may be the last.

"Very truly yours, V. M. D. Marcy."

After being kept in bed for three weeks, she was allowed to get up, but no sooner did she assume the upright posture than the subinvoluted vagina began to pout from the vulva. On December 6, 1878, she came to my office and submitted to an examination. I found that the reconstructed portion of the perineum had been torn open, and that the fore wall of the vagina, together with a pouch of the bladder, was bulging out. The womb, however, still kept pretty well up. It was retroverted, and measured 3.25 inches. As she was averse to any operation, and the vulva was too open and too limp to sustain a pessary, I advised the use of oakum wads and astringent injections. Since that day I have had no news from her, but I fear that in time the cervix will be lengthened out by traction of the bladder and of the heavy subinvoluted vagina, and that her old lesions will be reproduced.

Case V. — M. C. H., an American, aged twenty-five, has been five years married. For six years she has been earning a livelihood by operating on the sewing machine. Before learning this trade she was free from all uterine trouble. But, becoming very stout, she tried to improve her shape by working in very tightly-

laced corsets. The result was, that in one year's time, the womb came down to the vulva. She then married, and three months after became pregnant. The prolapse now grew worse. Thrice she had to call in a physician to draw off her water, and finally was obliged to wear a ring-pessary throughout her pregnancy. Her labor was a short one, but it ended in a torn perineum. Her physician at once put in stitches, but the flaps did not unite. After a natural convalescence she got out of bed on the ninth day. Four months later, although she was nursing her child, her catamenia returned. Before long they became too free. Next, her old symptoms returned, the cervix soon showed itself at the vulva, and in a short time protruded. She was at first able to support the parts with a T bandage, but it soon gave no relief.

The womb measured a trifle over five inches. The bladder was unusually prolapsed and with it, of course, the corrugated, anterior wall of the vagina. But the pouching of the rectum was not marked. With regard to the condition of the cervix I am unable to speak, because my notes make no allusion to a laceration. In April, 1875, after a preparatory treatment, her cervix uteri was removed before the class by the hot wire, and her perineum restored. The operation was a complete success in every respect. On April 15, 1879, just four years after the operation, she came to see me. She had lost her first husband, and was married to a second one, but had not again conceived. I found the cervix high up, the os uteri perfectly patulous, and the canal free to the passage of the sound, which gave a measurement of 2.75 inches. All the lesions present were a slight erosion, and a slight sinistro-lateral version. She had not had a return of the prolapse or of the cystocele, and had come to consult me about loss of appetite and of strength, induced by over-work.

Case VI. — On February 3, 1876, I was called to Cecil County, Maryland, by Drs. Charles M. Ellis and R. C. Carter, to see a case of prolapse in a hard-working farmer's wife. Their patient, an American, had borne many children and had passed the climacteric. She was very fat, and much afflicted with asthma and with shortness of breath. The uterine cavity measured a trifle over six inches, and the cervix protruded fully four inches from the woman's person, leaving but little of the womb within the pelvis. The vagina was wholly inverted. An unusually large cystocele and a rectocele were present, and so also was a broad

ulcer, overlapping both the cervix and the vagina. Every kind of pessary had failed to relieve her. The operation was a joint affair, Dr. Ellis removing the cervix, and I repairing the torn and functionally weakened perineum. In the following May Dr. Ellis wrote me "that the operation was in every particular a most gratifying success."

Eighteen months later she had some prolapsus of the vagina which was perfectly relieved by a Hodge pessary. Dr. Carter, her physician, in a letter to me, attributed this prolapse "to the severe attacks of asthma to which she is subject, and to her being almost constantly on her feet. Her family," he added, "is very large, and she has been compelled to work far beyond her strength." Wishing to get the last news about her, I wrote last week to Dr. Carter, who kindly called on our patient and gave me the following account of her condition: —

"CHERRY HILL, MD., *September* 11, 1879.

MY DEAR DOCTOR, — I have seen Mrs. ——, and she seems perfectly delighted with her condition. She says that she feels better than she has done for ten years. Before the operation she could not use any kind of uterine support, but now, since the application of Hodge's improved pessary, the relief obtained is *complete.* Yours sincerely,

R. C. CARTER.

CASE VII. — B. A., Irish, aged thirty-seven, and married seventeen years, has had eight children, the youngest three years old. Her labors have all been easy, but since the birth of the last one the womb "came down." She is a hard-working woman and this condition incommodes her very much. She has had fever-and-ague for the past two years, and was brought into the hospital of the University of Pennsylvania on September 28, 1876, much reduced by diarrhea and malarial cachexia. Being put upon large doses of quinia, and quarter-grain doses of the silver nitrate, she rapidly improved. The perineum in one of her labors had been badly torn, and projecting from it was the cervix, looking like the penis of a horse. The sound gave a measurement of five inches. The vagina, being wholly inverted, was pouched by a cystocele and by a rectocele. On October 18, the cervix was cut off by the hot wire, and the perineum restored in such a way as to cure the rectocele. A secondary hemorrhage on the 23d was controlled by injections of a saturated solution of alum.

Two days later the stitches were removed, and union found to be perfect. Three weeks more were needed before the open sore on the cervix skinned over.

Until very recently this woman has been under observation, and the success of the operation is known to be complete. The small womb has never sagged down since, and both cystocele and rectocele have disappeared. Up to the present time no cicatricial contraction has occurred, the os uteri still stays open, but she has not yet conceived.

Case VIII. — J. M., a German Jewess, aged thirty-eight, has had six children, the oldest being now seventeen years old, and the youngest, twenty months. She had one miscarriage before her first labor, and one after the fourth. The fifth labor was followed by an incomplete prolapse of the womb, which was relieved by a pessary. She now had an attack of arthritic rheumatism which left chalky deposits. When her sixth child was three months old the womb "came out," and she has not since been able to wear a pessary that could retain it. Micturition is painful, and her water cannot be voided in a stream. Nor can she defecate without passing two fingers into the vagina, and pressing upon its hind wall. My examination revealed the usual characteristics of this lesion: there were a cystocele, a rectocele, a functionally weakened perineum, a womb fully five inches long, and an old tear of the cervix on the left side, reaching up to the vaginal roof. By the sound, the prolapsed bladder seemed to descend quite down to the verge of the os externum uteri, but, by the introduction of the little finger into the bladder, it was found that by pushing up the vesical pouch a good half-inch of the cervix could be sliced off. This was done with the hot wire, before the class, on January 24, 1877, and immediately afterwards the vulvo-vaginal outlet was narrowed. Her convalescence was uninterrupted and the cure complete. She has not since conceived, but she has remained cured, and without dysmenorrhea. About two months ago she sent me a patient, who brought her compliments, and the message that she was perfectly well.

Case IX. — J. K. M., American, aged forty-two, was married nineteen years ago. She has had five children, the youngest being now seven years old. She was well and strong until five years ago, when her catamenia began to become profuse, and bladder troubles set in. Defecation soon became difficult, and

as all these symptoms grew worse she put herself into my hands.

I found a large cystocele, a still larger rectocele, and between them a lacerated cervix which just reached the vulva, but did not protrude unless she was on her feet. The womb was retroflexed, and gave a measurement of not quite five inches. On January 22, 1878, I slowly cut off the cervix with the cold wire, but some bleeding followed, which needed the benzoline cautery. As she had symptoms of stone, I also forcibly dilated the urethra, and both her own physician and I passed the sound and our index fingers into the bladder, but although we carefully explored the vesical cavity, no foreign body could be felt within it.

This operation was a success in so far as the prolapse of the womb was concerned, but, contrary to my expectations, it had no effect whatever upon the bladder and rectum troubles. For I had been in hopes that, since the cervix barely protruded, the high position of the fundus would, when the womb had shrunk and had become consolidated, pull up the vagina and efface both of these pouches. Some months afterwards her physician operated upon the cystocele and rectocele, but with no abatement of her sufferings. He then once more dilated the urethra, and found several patches of the vesical mucous membrane covered with a crust of urine salts. It broke down when touched with the finger, and was removed in fragments. Partial relief followed this operation, but not so much as was expected, and, as far as I can learn, the lady is still a sufferer.

Case X. — E. L., American, a fat widow of about forty, and the mother of several children, has had a prolapse of the cervix for several years. In the spring of 1876 her physician, Dr. J. C. Norris, asked me to see her. At that time the womb measured 5.25 inches, and the cervix projected some three inches from her person. I advised amputation of the cervix and narrowing of the vulva. She refused to submit to any operation, and consulted a number of other physicians, under whose charge she remained for some two years. Growing worse, she again called in Dr. Norris, who, in February, 1878, asked me to see her. She was now bed-fast from an enormous tumor, which lay between her thighs. It was a hernia, containing in its vaginal sac a retroflexed and wholly prolapsed womb, measuring four inches, a very large cystocele, a smaller rectocele, both ovaries, and some loops of intestine. The walls of the vagina were

greatly thickened, and they were also stiffened and disfigured by an eczematous eruption. Reduction of the prolapsed mass had been vainly tried by Dr. Norris, and I succeeded no better. So we decided to soften the tumor by poultices, and a few days afterwards Dr. Norris put his patient in the knee-breast posture, and with some difficulty pushed the mass back. Hot water injections now replaced the poultices, and did much good in relieving the congestion. After this experience she was ready for any operation, although I could not then speak so confidently of success, as I had spoken two years before.

She was removed to a private room in the hospital, and on March 8, I cut off the cervix with the hot wire. It had been my intention to narrow the vulva at the same operation, but, on examining the cervical stump, I found, to my dismay, that I had burnt out a hole in Douglas' pouch large enough to admit a silver quarter. This is the only mishap of the kind that I have yet met with. Fortunately, no bad symptoms arose other than a slight febrile movement, which lasted two days. A few days later the vulva and vagina were narrowed by a triangular denudation of the posterior wall of the vagina, the apex of which reached to the cervix.

The result of this operation has thus far exceeded my most sanguine expectations. The womb has become reduced to a natural size, and, although resting on the new perineum, gives her no uneasiness. She deems herself well, and is able to attend to her household duties, but I think that the womb will, before long, need a ring pessary to keep it up.

Case XI. — M. S., German, aged forty-seven; catamenia regular, but profuse; has been married twice, and has had nine children, the last one born November 15, 1872. In 1869, when she was pregnant with her sixth child, the womb came down, and has been down ever since. She has never used preventive measures. The sound gave a measurement of over five inches. The perineum was torn, and a rectocele and a cystocele were both present. On October 16, 1878, with the hot wire, I removed, before my class, about one inch of the cervix. As she was very thin and weak, the perineum was not operated upon until two weeks later. I have seen her several times since she left the hospital, and I believe, from the small size of the womb and from its elevated position, that she is permanently cured.

Case XII. — B. K., Irish, aged twenty-eight, has been married

two years, but is sterile. So far from using preventive measures, she is morbidly anxious to become a mother. About four years ago, while lifting on the kitchen range a boiler filled with clothes, she felt something give way, with a pang of pain. She afterwards became weak and miserable, and lost blood steadily for three months. The womb then came down so far as to rest on the perineum, but after her marriage it protruded from the vulva, and has been steadily prolapsing more and more. To my surprise I found the womb with a length of five inches, and the cervix projecting from her person, like the male organ in a state of partial erection. There was not the slightest trace of any labor-lesions at the small and circular os, or at the perineum, and I implicitly believe her statement of never having given birth to a child. Both supra- and infra-vaginal elongation existed, but the former preponderated, — sufficiently so to produce a cystocele, but there was no rectal pouch. On April 30, 1879, I removed a large portion of the cervix with the cold wire, and covered the wound with the vaginal mucous membrane by Hegar's stitches. The relief thus far has been complete, the womb having ascended, and its length being now natural. I did not touch the perineum, because its functions were not at all impaired.

REMARKS.

An analysis of the foregoing twelve cases shows the following results : —

Three women, since the operation, have been under observation, two for five years, and one for six years, and have stayed cured.

Four women have, thus far, kept well, one for two and a half years, two for three years, and one for four years.

Three women have, up to the present time, not exhibited the slightest symptoms of relapse, for six months, for one year, and for one year and a half, respectively.

One woman, after staying well for the four years following the operation, became pregnant, and gave birth to a child at term. Her perineum was again torn, and the vagina and bladder are again prolapsing, but not the womb as yet.

One woman was cured of the cervical prolapse, but not of her cystocele or her rectocele.

To these cases, candor requires me to add two others, which ended fatally. The one, a hard-working Englishwoman, had merely an amputation of her cervix by the hot wire. Douglas' pouch was not opened, and yet a furious peritonitis set in, which carried her off in eight and forty hours' time. The other case needs more than a mere passing notice, for it displays a lack of judgment on my part, from which others can take warning.

Mrs. G., a monthly nurse, had her means of livelihood very much crippled by a bad prolapse of the cervix uteri, with vesical and rectal pouching. She told me that she was sixty years old, but she looked so much older that I questioned the accuracy of her statement. She, however, declared so positively her age to be as given, that I consented to an operation. She was accordingly brought before my class on May 10, 1877, and with the hot wire I amputated merely the cervix. She did well for two days, when a serious hemorrhage took place from the wound. By the use of the iron subsulphate and a tampon, this was, with some difficulty, staunched by the resident physician. The next morning bleeding again occurred, and I now applied tannin, and packed the vagina very firmly. She was much weakened by these two floodings, but gradually began to mend, when, on the twenty-first day after the operation, a third hemorrhage took place, which carried her off before I could reach her bedside. After her death her son informed me that she was eighty years old. It was then apparent, that through her eagerness to be relieved of her infirmity, and through her fear that her age would be deemed an obstacle, she had misrepresented it. She also had gone to the hospital without the knowledge of her relations, who supposed her to be engaged in nursing.

The above list does not exhaust my experience in the operative treatment of this lesion, but I have limited myself to such cases only as have been kept subsequently under observation. All the above cases were those of hard-working women. Out of all my operations I received but two fees, the one from an over-worked farmer's wife,

and the other from a lady who, for many years of her married life, was compelled, by poverty, to dispense with a servant. This affection of the cervix is, in fact, pretty much restricted to the laboring classes, and especially to those women, such as cooks and laundresses, whose work compels them to stand much on their feet, and to lift heavy weights at a disadvantage, such as lifting on and off a hot range, at arm's length, a heavy kettle or a boiler filled with clothes. To this rule I have met with but two exceptions. One was that of an old lady of ninety, in whom the prolapsus of the cervix was coupled with a descent of the left ovary. The other was a lady of seventy. Each one was in easy circumstances, and in each the disease began long after the climacteric.

Again, it is worthy of note that Case XII. was that of a nullipara. I have seen two more such examples of unmistakable elongation of the supra-vaginal portion of the cervix in women who had never borne children. Both were old maids of irreproachable character. One was fifty years old; the other fifty-five. Each had reached the menopause. In each the projecting cervix was symmetrical in shape and looked like the male organ. There was slight ectropion of the mucous lining of the cervical canal, such as is often seen in virgins, and an erosion, with sharply cut edges, around the os. The sound gave a measurement of about five inches in either case. In each, the fourchette was intact, but stretched and much irritated by the constant attrition. In the former a cystocele seemed to be the cause of the elongation; in the latter, an unusually large rectocele. Both are hard-working women. In one, the trouble began shortly before the climacteric, which was reached at the age of forty-five. The other ceased to menstruate at thirty, and uterine symptoms soon after began to set in. As they are single women, they prefer to bear their burden, rather than submit to the risks of an operation. Dr. Matthews Duncan,[1] also, reports four like cases in women who had never borne any children. These facts conclusively show

[1] *Papers on the Female Perineum*, p. 97.

that such lesions do not necessarily come, as some contend, from an ununited laceration of the cervix or from some other lesion of child-birth. Yet I must own that in the majority of cases the women were multiparæ, and that usually the cervix and the perineum had been torn. But it must be borne in mind that a very slight tear of the cervix will be much exaggerated in appearance, by the ectropion of the mucosa, which always takes place in these hypertrophied cervices.

It will be seen that in the foregoing cases the cervix was amputated with either the hot or the cold wire, and not with a sharp cutting instrument. The scissors and the knife were not resorted to, because their use is not only not indicated, but is liable to be followed by uncontrollable hemorrhage. I say "is not indicated," because it strikes me that some suppurative action is needed to set up such retrogressive metamorphosis as will carry out the process of shortening, and finally consolidate the tissues of the ductile womb. For this reason it is, that I amputated even those cervices which bore unmistakable tokens of an ununited rent. Nor is the hot wire a favorite with me; I now resort to it only in those cases in which the infra-vaginal portion of the cervix is so short, that but a very thin slice of it can be taken away. Since it cuts almost as cleanly as a knife, its action is more under control than that of the cold wire. But, apart from the cumbersomeness and the caprices of a galvano-caustic battery, there exists a grave objection to its use. In my experience, however carefully the wire is kept at a dull heat, and however slowly the cervix is cut off, when the eschar is thrown off, there will always be danger of a secondary hemorrhage. I have seen several such cases. In one I aided a friend in removing a cancerous cervix; the lady had an alarming secondary hemorrhage on the fourth day, and a fatal one on the seventh. Last January I used it also in the ablation of a cancerous cervix, and had it not been for the pluck and skill of the resident physician, Dr. Harte, the lady would on the third day have bled to death before I had time to reach her. As it was, I spent the

greater part of three days, and all of three nights, by her bedside, before the danger was passed. Case VII., of the foregoing list, had also a secondary hemorrhage, but it was slight, and yielded to an injection of alum-water. Then, again, one of the cases which I have reported, bled to death on the twenty-first day. But, as the woman was eighty years old, and her blood-vessels had undergone calcareous degeneration, it is hardly a fair illustration. Finally, cases of secondary hemorrhage, after the use of the hot wire, have been reported by Sims,[1] Thomas, Hegar, Spiegelberg,[2] and by others. With the cold wire I cannot recall a single case of secondary hemorrhage, and my preference for it is, therefore, growing. But it does not make so clean a cut as the hot wire, and is liable to drag into its loop too much of the adjacent structures. To avoid this I am in the habit of nicking around the cervix, with the scissors, a groove in which the wire is lodged. In this manner not only is the wire safely guided, but the tough, unyielding mucous coat is avoided, and the brittle parenchymal structure reached without any previous strain on the wire. Besides the exemption of secondary hemorrhage, the cold wire possesses another advantage over the hot wire. When the latter is used upon the cervix, the edge of the surrounding mucous membrane is so sealed to the underlying structures, and so charred that it cannot be drawn over the stump. The result is, that a large open wound is left which needs from four to six weeks for skinning over, and which tends to cicatricial contraction. The eschar which falls off from this large and seared surface is the cause undoubtedly of the secondary hemorrhage, When, however, the cold wire has been used, the surrounding mucous membrane can be drawn over the stump, and be stitched by Hegar's method, to the rim of the os externum. Its elastic pressure aids in closing up the mouths of the blood-vessels, more or less union takes place by granulation, the cervix is lengthened, the healing process is shortened, and the area of cicatricial contraction much lessened.

[1] *American Journal of Obstetrics*, July, 1879, p. 453.

[2] *Obstetrical Journal of Great Britain*. October, 1878, pp. 425, 426.

With regard, however, to the alleged cicatricial contraction of the os, resulting from the use of the hot or of the cold wire, I think that its liability to occur has been very much exaggerated. Not one of my operations was followed by dysmenorrhea, or by such a contraction as needed any special treatment. One of my patients became pregnant, although I am bound to confess that she had a pretty hard time of it in her labor. Yet it appears that the extreme rigidity in this case was exceptional. Dr. Jerome Anderson reports a case of pregnancy occurring two years after the amputation of the cervix with the galvano-cautery. "The labor was extremely short, there being but two or three severe pains."[1] The cervix was, however, torn at two opposite points. My friend, Dr. D. Benjamin, of Camden, N. J., reports another case, one which I had seen with him and had advised the amputation of the cervix. On August 30, 1876, he and Dr. Ridge performed the operation with the cold wire. She had borne no children for eight years, but, on January 26, 1877, she ceased to menstruate, and, on October 3d, fell into labor. "The os was somewhat rigid, but dilated in about eight hours, and a fine male child, over the average size, was born. The mother is now perfectly well."[2] After eighty-four successful amputations of the cervix, Lisfranc had ten cases of pregnancy, in which one only failed to reach full term.[3] Schrœder[4] and Wathen[5] report each a case of pregnancy after this operation. Out of thirty-five women in whom the cervix was removed with the galvano-cautery by Noeggerath, six became pregnant. Out of six who were operated upon with the knife and scissors, in one pregnancy took place.[6] The fact seems to be, that the amputation of the cervix often cures the coexisting sterility which is dependent upon the local lesions.

[1] *American Journal of Obstetrics*, April, 1879, p. 314.
[2] *Philadelphia Medical Times*, February 16, 1878, p. 222.
[3] *Obstetrical Journal of Great Britain*, etc., October, 1878, p. 415.
[4] *Ibid.*, p. 426.
[5] *Richmond and Louisville Medical Journal*, May, 1878.
[6] *Transactions American Gynecological Society*, vol. ii., p. 109.

For not only is coition interfered with by the length of the cervix and the protrusion of the parts, but conception can hardly take place unless the mass be reduced and the male organ be received directly into the gaping os uteri.

Both the bladder and the retro-uterine pouch are in danger of being cut open when the cervix is amputated. But the former can always escape injury if its lower boundary be defined by the introduction of the little finger into it through the urethra. In every one of my cases, I did this, and kept my finger in the bladder while screwing the wire home. I can highly recommend it as a far more trustworthy method than the introduction of the sound. Unfortunately there are no such diagnostic means for ascertaining the depth of the peritoneal fold. Usually this fold does not descend so low as the pouch of the bladder; but this rule is not without exception, and the peritoneal cavity will occasionally be opened in spite of the greatest care. In Case X. I met with this mishap, and so also have such experienced operators as Tillaux,[1] Martin,[2] Atthill,[3] Meadows,[4] Sims,[5] Duncan, Simon, and Spiegelberg.[6] From the happy issue in my case, and from that of like cases, I am disposed to think that the risk to life from this accident has been greatly overrated. Karl Braun goes so far, indeed, as to include a portion of the peritoneum whenever he removes a cancerous cervix.[7] The risk will be much lessened if the operation be performed with the woman in the lithotomy position; for then air will not be sucked up into the peritoneal cavity through the wound, as it will when the lateral posture is assumed. From not observing this caution, I lost a patient from whom I removed both ovaries per vaginam. For fear of its constringing effects upon the vagina, the spray was not used. As soon as

[1] *Archives de tocologie*, Mars, 1875, p. 161.
[2] *Journal of the Gynæcological Society of Boston*, May, 1871, p. 307.
[3] *Dublin Medical Journal*, February, 1877, p. 187.
[4] *Transactions London Obstetrical Society*, vol. xi., p. 102.
[5] *Uterine Surgery*, ed. 1866, p. 203.
[6] *Obstetrical Journal of Great Britain*, October, 1878, p. 425.
[7] *Philadelphia Medical Times*, February, 1875, p. 325.

Douglas' pouch was opened, the peritoneal cavity acted like a large bellows, sucking in air and forcing it out through the wound, with every act of inspiration and expiration. A peritonitis was thus kindled up which carried off my patient. Strange as it may seem, Breslau reports a case in which, after amputating the neck of the womb, he found that he had opened the fold of peritoneum lying between the bladder and the womb. Stoltz, in commenting upon this accident, says that it is not the only one of its kind.[1]

In but one of my cases was a special operation performed for the cystocele. With this single exception (Case IX.), the prolapsed bladder was pulled up by the permanent shrinkage of the womb, and pushed up by the pressure of the reconstructed perineum and the hind vaginal wall. This operation of colpo-perineorrhaphy also obliterated the rectocele. For by it the redundant vaginal tissue of the rectal pouch was denuded, and used up in forming the back-wall of the new perineum.

ELONGATION OF THE INFRA-VAGINAL CERVIX.

While elongation of the supra-vaginal cervix is by no means a rare disease, elongation of the infra-vaginal portion is not so commonly met with. Nor is its etiology beset with so many difficulties as its congener. We have plain sailing here. Through perverted nutritive activity the surgical neck of the womb grows much longer and somewhat larger than natural by true hypertrophy; and although its increased weight usually drags down the womb as a whole, yet this displacement represents merely a sequence, and is not essential. In this variety the cervix very rarely grows so long as to protrude from the vulva, but we are all familiar with such modified forms of it as the conical cervix, which often plays an important part in the production of sterility and of dysmenorrhea.

In my experience, whenever the infra-vaginal portion of the cervix is simply elongated and symmetrically so, it is

[1] *Archives de tocologie*, Mars, 1875, p. 161.

either a congenital condition or an exaggeration of a congenital condition, and it is, therefore, found either in virgins or in nulliparæ. In child-bearing women, the infra-vaginal portion often takes on an hypertrophy, but this is less an elongation than circular growth — that is to say, a general increase in every direction. There is yet another form of hypertrophic elongation which involves one lip of the os, usually the fore-lip. The prolongation becomes proboscis-like, and, from its resemblance to the snout of the tapir, has gained the name of *tapiroid.* All these acquired forms of hypertrophy are, invariably in my experience, traceable to defective involution after labor, or to the traumata of labor, among which a torn cervix takes rank. Take, for instance, this case: —

E. S., Irish, aged thirty, and married six years, had at first two miscarriages, then one child born at term, November, 1875. The labor lasted from Sunday morning until Tuesday noon, and was ended by the forceps. She experienced no pain or inconvenience until she got up — at the end of two weeks. She then had a bearing-down feeling caused by a "lump pretty near out." Six months later the cervix became extruded, and staid so as long as she was on her feet. The sound gave a measurement of not quite five inches. Neither rectocele nor cystocele exists, but the womb is lower than it should be, and the vaginal cervix fully two inches in length. The latter has been torn bilaterally, the slit so unevenly dividing it, that the os gapes open like a shark's mouth. Its fore-lip measures one inch and a half, the hind-lip one inch. Her catamenia are regular and natural in quantity. She came to be relieved of her bearing-down feeling, and especially of the impediment to coition. As the elongation was mainly in the infra-vaginal cervix, and attributable to the lesions resulting from the tear, I contented myself with denuding its edges and stitching them together. This was done November 27, 1868. The union was perfect, but I am somewhat disappointed in the result. The cervix no longer protrudes from her person, but the womb is low down and measures over three inches. I now regret not to have amputated the torn portion of the cervix. There was evidently not suppurative action enough to bring about complete involution.

This case, and some others, in which the womb did not shorten after the torn cervix had been operated upon, confirm me in the belief that elongation of the supra-vaginal cervix is best cured by amputation.

Of pure longitudinal growth of the vaginal cervix, I have seen a number of cases, but seven only in which the cervix either appeared at the vulva or protruded from it — and all were married women, save one, a maiden lady of forty-five. Four of these were colored women. In the married ones the condition had existed during single life, but had then given but little inconvenience. After marriage, however, the cervix seemed to grow in size and to protrude still more. It was also found that coitus was interfered with, and that sterility was invariably present. For these reasons, and for the accompanying dysmenorrhea, it was that my patients consulted me. I am particular in noticing the circumstance of sterility, because one of our most distinguished Fellows has recently denied the existence of such hypertrophy, unless caused by a laceration of the cervix. My own personal observations would lead me to say that, while a torn cervix is often associated with elongation of its supra-vaginal portion, and with circular hypertrophy of its infra-vaginal portion, it never is with elongation of the latter. To cause the latter lesion, it seems needful, indeed, that either virginity or sterility should be present.

Thus, some years ago, Dr. D. Hayes Agnew removed a cervix, measuring nigh three inches, from a virgin, and my friend, Dr. E. L. Duer, is now treating another with a cervix so long as to protrude from the vulva, while the fundus uteri is barely, if at all, prolapsed.

Again, Huguier, in his classical essay on hypertrophic elongation of the cervix, refers to a number of like cases.[1] Moreover, on the authority of Dr. Fordyce Barker, it is stated that "the late Dr. Charles A. Budd removed from the body of a maiden lady, aged forty-one, who died of cholera in 1854, a uterus, whose cervix, below the vaginal junction, measured 3.5 inches. There was no laceration of the cer-

[1] *Mémoires de l'Academie impériale de médecine*, 1859, tome xxiii.

vix. This specimen was, for several years, in the museum of the New York Medical College."[1] Another very remarkable case, in which the elongated cervix, "filling out the vagina," was mistaken for an inverted womb, and in which the sound "passed up to its full length," is reported by Henry.[2] "The enormously elongated hypertrophic cervix" was cut off with the cold wire.

With regard to the indication for the treatment of this elongation, there can be no question. The redundant portion of the cervix must be removed. But with regard to the mode of removal, there is a diversity of opinion. The cold wire and the hot wire have each its advocates. But these instruments leave uncovered raw surfaces which must heal by granulations, and, therefore, slowly. Besides, from the denser structure of the cervix, the os is in more danger of closure from cicatricial contraction than it is in elongation of the supra-vaginal portion. Again, while the suppurative action of an open wound brings about that retrogressive metamorphosis which is so needful in the cure of supra-vaginal elongation of the cervix, it is not indicated here because the whole redundant portion can be cut off. Sims's circular amputation, together with the covering of the stump with the surrounding mucous membrane, is an improvement, but it is open to the objection of not guarding against cicatricial contraction of the os. Nor does the mucous lid make compression enough upon the open-mouthed vessels to ward off a secondary hemorrhage. I have tried all these methods, and have finally adopted Hegar's as the best. In his, the whole rim of the cervical mucosa is sewed to the rim of the vaginal mucosa by deep and by superficial stitches, which radiate from the os like the spokes of a wheel. Thus, bleeding vessels are firmly compressed, and the union of the two mucous membranes keeps the os externum open.

[1] *American Journal of Obstetrics*, April, 1879, p. 409.

[2] *Obstetric Journal of Great Britain*, October, 1878, p. 424.